

REMARKS

The Office Action objects to Figure 5 indicating that it contains a reference number (i.e., reference number 30) that does not appear in the specification. In response, Applicant submits a replacement sheet for Figure 5 in which the reference number 30 has been removed. In light of the replacement figure, Applicant requests that the objections to the drawings be withdrawn.

Regarding the claim rejections, claims 9-18 are currently pending with claims 9 and 15 being independent. The Office Action indicates that both claims 9 and 15 stand rejected as being obvious over Sugaya (U.S. Pat. No. 6,292,289). In response, Applicant has amended claims 9 and 15 and traverses the rejection. No new matter has been added.

Claim 9 is directed to an amplifier node for an optical network. The amplifier node comprises at least one input port receiving an incoming optical wavelength-multiplex signal, a pre-amplifier receiving the incoming optical wavelength-multiplex signal, a dispersion compensator receiving the outgoing optical wavelength-multiplex signal, and a post-amplifier receiving a dispersion compensated outgoing optical wavelength-multiplex signal and transmitting an amplified dispersion compensated outgoing optical wavelength-multiplex signal.

Claim 9 has been amended to recite, "a demultiplexer and a multiplexer merged into a single continuous, wavelength-selectively reflective structure configured to perform both demultiplexing and multiplexing functions." *E.g., Spec.*, ¶[0035]; Figure 5. Sugaya neither teaches nor suggests this limitation.

Sugaya discloses a method of transmitting a supervisory optical signal without degrading the quality of a main signal. Sugaya discloses a pair of couplers (i.e., wavelength couplers 18 and 22 in Figure 4) that the Office Action maintains are the claimed demultiplexer and multiplexer. However, Sugaya does not support this assertion for several reasons. First, Sugaya explicitly refers to a demultiplexer 30 and a multiplexer 32 as separate components that

are independent of the couplers 18, 22. Further, each performs a separate function that is distinct from those performed by wavelength couplers 18, 22.

Particularly in this preferred embodiment, an optical demultiplexer 30 and an optical multiplexer 32 are used to connect the optical amplifiers 16(#1) and 16(#2) in parallel, and wavelength couplers 18 and 22 are used to connect the optical amplifier 16(#1) and the optical supervisory circuit 20 in parallel.

Sugaya, col. 8, ll. 13-18. Particularly, the demultiplexer 30 and the multiplexer 32 are used to connect two different optical amplifiers in parallel, while the couplers 18, 22 are used to connect only one of the amplifiers (i.e., 16#1) and another separate circuit 20 in parallel. Thus, the wavelength couplers 18, 22 are not equivalent to the demultiplexer and multiplexer disclosed in *Sugaya*, let alone to the claimed demultiplexer and multiplexer.

Second, the couplers of *Sugaya* are not merged into a single continuous, wavelength-selectively reflective structure configured to perform both demultiplexing and multiplexing functions. Rather, as seen in Figure 4, the wavelength couplers 18, 22 are separated by an amplifier, which amplifies a main signal light that is output from coupler 18 and input into coupler 22. *Sugaya*, col. 8, ln. 13 – col. 9, ln. 20. Further, one skilled in the art would not merge the couplers 18, 22 because the amplifier 16 is such an essential element to the system disclosed by *Sugaya*. Specifically, the amplifier 16 allows for the adjusting of a level of the main optical signal in line with the regenerated optical supervisory signal added in coupler 22. *E.g.*, *Sugaya*, col. 8, ll. 62-65. No one skilled in the art would merge the couplers 18, 22 into a single continuous, wavelength-selectively reflective structure because doing so would only produce unbalanced levels of optical signals leaving the coupler 22.

Therefore, as evidenced above, *Sugaya* does not teach or suggest "a demultiplexer and a multiplexer merged into a single continuous, wavelength-selectively reflective structure configured to perform both demultiplexing and multiplexing functions," as recited in claim 9. Nor does *Sugaya* support the contention that the wavelength couplers 18, 22 equate to the claimed

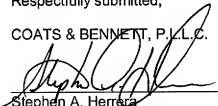
merged demultiplexer and multiplexer. Accordingly, claim 9 and its dependent claims are patentable over the cited reference and the §103 rejection of claim 9 should be withdrawn.

Claim 15, which also stands finally rejected as being obvious over Sugaya, has been amended to contain language similar to that of claim 9. Accordingly, for reasons similar to those stated above, claim 15 and its dependent claims are non-obvious over the cited art.

Finally, the Office Action indicates that dependent claims 10-11, 13-14, and 16-17 stand finally rejected as being obvious over Sugaya in view of Peragine (U.S. Pat. No. 6,623,185). These claims, however, are allowable over the art of record because their respective independent claims are allowable over the art of record. Further, Peragine does nothing to remedy Sugaya. Therefore, for reasons similar to those stated above, neither Sugaya nor Peragine, alone or in combination, render any of claims 10-11, 13-14, and 16-17 obvious.

Respectfully submitted,

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